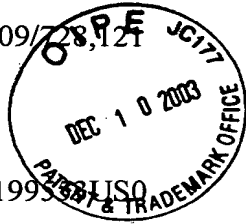


Application No. 09/728,121  
Appeal Brief



DOCKET NO: 1995-01-01

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
EIICHI MASUHARA ET AL. : EXAMINER: JAGOE, D. A.  
SERIAL NO: 09/728,121 :  
FILED: DECEMBER 4, 2000 : GROUP ART UNIT: 1614  
FOR: DENTAL AND ORALOGIC :  
COMPOSITION :

APPEAL BRIEF

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Pursuant to the Notice of Appeal filed September 10, 2003, and subsequent to the  
Advisory Action mailed September 11, 2003, the Applicants file herewith their Appeal Brief.

**The Brief** begins on page 2 of this paper.

**A copy of the claims on appeal** appears in the Appendix starting on page 7 of this  
paper.

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(1) Real Party in Interest. The real party in interest is Kuraray Co., Ltd.

(2) Related Appeals and Interferences. There are no related appeals or interferences.

(3) Status of the Claims. Claims 1-24 have been cancelled. Claims 25-43 have been rejected and Claims 44-50 have been allowed.

(4) Status of the Amendments. The Amendment filed September 10, 2003, after final rejection, has been entered.

(5) Summary of the Invention. Dental materials that are fitted within the mouth or applied within the mouth, such as a tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece. The specification describes the claimed dental materials which are fitted within the mouth on page 1, lines 10-13, page 7, lines 18-19, and page 9, line 25. Dental materials which are applied in the mouth, such as to teeth, are described in the specification at page 1, lines 12-14, and page 5, generally.

These materials, as described on page 8, line 29-page 9, line 9, and in independent Claims 25 and 40, comprise (a) a photocatalytic titanium oxide precursor, (b) at least one silicon-containing compound [as described in this section and these claims], and (c) a liquid medium. The ratio of component (a) to (b) ranges from 20/1 to 1/100 in terms of moles of titanium atoms in (a) to moles of silicon atoms in (b).

(6) Issues.

A. Does the limitation in Claim 25 “A dental material. . . wherein said dental material is a material that is fitted within or applied in the mouth” distinguish Claims 25-39 from the

products of Hayakawa et al., U.S. Patent No. 6, 165,256 and thus avoid anticipation of these claims by this patent (or the obviousness of Claims 27 and 30, which correspond to prior Claims 3 and 7, over this patent)?

B. Do the limitations in Claims 36-38 to a film which “is applied” or “has been applied” within the mouth or to a material fitted within the mouth, distinguish the claimed dental materials from the products of Hayakawa et al., U.S. Patent No. 6, 165,256 and thus avoid anticipation of these claims by this patent?

C. Does the limitation in Claim 40: “A tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece [comprising the recited titanium/silicon composition]” distinguish the products of Claims 40-43 from the products of Hayakawa et al., U.S. Patent No. 6,165,256 and thus avoid anticipation of these claims by this patent?

(7) Grouping of the Claims. Claims 25-35, which contain limitations to dental materials fitted within or applied within the mouth, stand or fall together. Claims 36-38, which contain limitations to applied films, stand or fall together. Claims 39-43, which contain limitations to specific dental products, such as a tooth crown restorative material, denture, denture base, etc, stand or fall together.

(8) Arguments.

Hayakawa et al., U.S. Patent No. 6,165,256, does not disclose or suggest every element of Claims 25-35, nor of Claims 36-38 or 39-43. Therefore, it cannot anticipate or render obvious these claims. To anticipate a claim, a prior art document must disclose every

element of the claim, Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987), see also MPEP 2131.01. Hayakawa does not disclose or suggest the following elements of the invention:

Claim 25 requires “A dental material. . .” that “is a material that is fitted within or applied in the mouth”. Claims 36-38 require that the dental material is a film that has been applied within the mouth, such as to a tooth (Claim 37), or to a material fitted within the mouth (Claim 38). The Appellants emphasize that these claims require that the film “is applied” or “has been applied” (as opposed to may be, might be, or could be applied) to a tooth or other substrate within the mouth. Thus, these claims require the presence of at least two elements: the applied film and the substrate (such as a tooth) to which it have been applied. Claim 39 requires the dental material be selected from a group of particular materials including tooth crown restorative materials, dentures, etc.

Claims 40-43 are directed to specific dental materials: a tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece.

Assuming, *arguendo*, that Hayakawa discloses exactly the same composition as that of the present invention, this patent would not allow one to immediately envisage the claimed dental materials that are fitted within the mouth, such as dental restorative materials or dentures, or materials that have been applied within the mouth, such as films. Hayakawa provides a hydrophilic film with anti-fogging properties; see col. 2, lines 45-54. Col. 5, line 58-col. 7, line 4, generally disclose some proposed uses for the composition of Hayakawa to make use of its anti-fogging effects, including on dental mouth mirrors (col. 5, lines 65-66) and on laser dental treatment equipment (col. 6, lines 15-16). While the term “dental” is used to characterize the equipment disclosed by Hayakawa, clearly this equipment is not a dental material that is fitted within or applied within the mouth! Col. 6 lines 43-col. 7, line 4,

disclose other proposed uses for the Hayakawa compositions for accelerating the removal of water droplets by evaporation or for providing an anti-static effect. While one possible material of the member is ceramics, there is no disclosure or suggestion to apply the Hayakawa composition to a dental material that is fitted within the mouth. Moreover, there is no disclosure or suggestion in Hayakawa of the films or the specific dental materials of Claims 36-43. Accordingly, Hayakawa does not disclose or suggest the present invention which requires a dental material which is fitted within or applied within the mouth, or of the films or specific dental materials of Claims 36-43.

Response to the Argument in the Advisory Action. The Advisory Action indicates that Claims 25-43 are viewed as intended use claims and that if a prior art structure is capable of performing the same intended use then the prior art structure would meet the claim. The Advisory Action deems the prior art structure (composition) of Hayakawa to be capable of use as a dental coating material, and therefore, capable of the same intended use as the dental material of the present invention.

The Appellants respectfully submit that this argument ignores the express limitations in Claims 25-43 to the particular physical or structural forms of the claimed dental materials, i.e. to a conventional dental material which is “fitted within, or applied in the mouth” or “a film that has been applied within the mouth or to a material fitted within the mouth” or “a tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece”.

The Appellants note that the claims specify that the composition “is applied” or “has been applied” within the mouth or to a dental material fitted within the mouth and that this distinguishes the claimed dental materials from an, as yet unapplied prior art composition, which could be or might be applied to another material such as a dental mirror or dental laser.

Thus, the Appellants respectfully request that this ground of both the anticipation and obviousness rejections based on Hayakawa, U.S. Patent No. 6,165,256, be reversed.

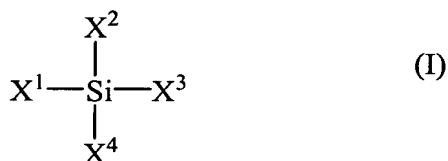
(9) Appendix (copy of claims on appeal)

1-24 (Cancelled)

Claim 25 (Previously Presented): A dental material comprising a composition that comprises:

- (a) a photocatalytic titanium oxide or a photocatalytic titanium oxide precursor;
- (b) at least one compound selected from the group consisting of:

a silicon compound having the following formula (I):



wherein  $\text{X}^1$ ,  $\text{X}^2$ ,  $\text{X}^3$  and  $\text{X}^4$  each independently represent an alkoxy group or a halogen atom,

a hydrolyzate of said silicon compound (I),  
a silicone resin,  
silicone resin precursor,  
and silica; and

- (c) a liquid medium;

wherein a ratio of (a) to (b) ranges from 20/1 to 1/100 in terms of moles of titanium atoms in (a)/moles of silicon atoms in (b),

wherein said dental material is a material that is fitted within or applied in the mouth.

26 (Previously Presented) The dental material of Claim 25, wherein a ratio of (a) to (b) ranges from 20/1 to 1/1 in terms of moles of titanium atoms in (a)/moles of silicon atoms in (b).

27 (Previously Presented): The dental material of Claim 25, wherein the photocatalytic titanium oxide precursor in (a) is a titanium alkoxide.

28 (Previously Presented): The dental material of Claim 25, wherein the silicone resin precursor in (b) is at least one selected from the group consisting of a silane compound, a silazane, and a mixture thereof.

29 (Previously Presented): The dental material of Claim 25, wherein said liquid medium is selected from the group consisting of water, alcohol, a mixture of water and alcohol, acetone, methyl ethyl ketone, ethyl acetate, chloroform, toluene, hexane, and combinations thereof.

30 (Previously Presented): The dental material of Claim 25, further comprising a thickener.

31 (Previously Presented): The dental material of Claim 25, further comprising at least one particle selected from the group consisting of silver, copper, zinc, metal salt, and a mixture thereof.

32 (Previously Presented): The dental material of Claim 25, comprising a photocatalytic titanium oxide or a photocatalytic titanium oxide precursor.

33 (Previously Presented): The dental material of Claim 25, comprising a



photocatalytic titanium oxide or photocatalytic titanium oxide precursor, and a liquid medium.

34 (Previously Presented) The dental material of Claim 25, wherein said composition has been dried or baked.

35 (Previously Presented) The dental material of Claim 25, wherein said composition has been exposed to photocatalytic light.

36 (Previously Presented) The dental material of Claim 25, which is a film that is applied within the mouth or to a material fitted within the mouth.

37 (Previously Presented) The dental material of Claim 25 that is a film that has been applied to a tooth, tooth restored with composite resin, tooth coated with dental manicure, gums or oral mucous membrane.

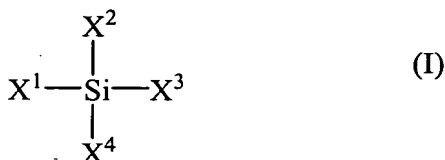
38 (Previously Presented) The dental material of Claim 25 that is a film that has been applied to a material that is fitted within the mouth.

39 (Previously Presented) The dental material of Claim 25 selected from the group consisting of a tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece.

40 (Previously Presented) A tooth crown restorative material, denture, denture base,

denture rebase, orthodontic base, wire, bridge, or mouth piece comprising a composition that comprises:

- (a) a photocatalytic titanium oxide or a photocatalytic titanium oxide precursor;
- (b) at least one compound selected from the group consisting of:
  - a silicon compound having the following formula (I):



wherein  $X^1$ ,  $X^2$ ,  $X^3$  and  $X^4$  each independently represent an alkoxy group or a halogen atom,

- a hydrolyzate of said silicon compound (I),
- a silicone resin,
- silicone resin precursor,
- and silica; and

- (c) a liquid medium;

wherein a ratio of (a) to (b) ranges from 20/1 to 1/100 in terms of moles of titanium atoms in (a)/moles of silicon atoms in (b).

41 (Previously Presented) The tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece, of Claim 40, wherein a ratio of (a) to (b) ranges from 20/1 to 1/1 in terms of moles of titanium atoms in (a)/moles of silicon atoms in (b).

42 (Previously Presented) The tooth crown restorative material, denture, denture base, denture rebase, orthodontic base, wire, bridge, or mouth piece, of Claim 40 wherein said composition has been dried or baked.

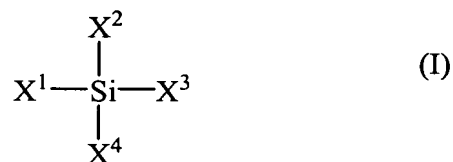
43 (Previously Presented) The tooth crown restorative material, denture, denture

base, denture rebase, orthodontic base, wire, bridge, or mouth piece, of Claim 40 wherein said composition has been exposed to photocatalytic light.

44 (Previously Presented) A method comprising:

applying to a surface selected from the group consisting of teeth, gums, a dental material fitted within the mouth, and an oral mucous membrane, a composition that comprises:

- (a) a photocatalytic titanium oxide or a photocatalytic titanium oxide precursor;
- (b) at least one compound selected from the group consisting of:
  - a silicon compound having the following formula (I):



wherein  $\text{X}^1$ ,  $\text{X}^2$ ,  $\text{X}^3$  and  $\text{X}^4$  each independently represent an alkoxy group or a halogen atom,

a hydrolyzate of said silicon compound (I),  
a silicone resin,  
silicone resin precursor,  
and silica; and

- (c) a liquid medium;

wherein a ratio of (a) to (b) ranges from 20/1 to 1/100 in terms of moles of titanium atoms in (a)/moles of silicon atoms in (b);

drying said applied composition to form a photocatalytic titanium oxide containing film on said surface; and

exposing said film to light.

45 (Previously Presented) The method of Claim 44, comprising applying said composition into the mouth of a subject having a dental or oral disease or onto a dental material fitted within the mouth of said subject.

46 (Previously Presented) The method of Claim 44, comprising applying said composition into the mouth of a subject having halitosis or onto a dental material fitted within the mouth of said subject.

47 (Previously Presented) The method of Claim 44, comprising applying said composition into the mouth of a subject having discolored teeth or onto a dental material fitted within the mouth of said subject.

48 (Previously Presented) The method of Claim 44, comprising applying said composition into the mouth of a subject having a dental or oral disease or onto a dental material fitted within the mouth of said subject.

49 (Previously Presented) The method of Claim 44, which is a method for bleaching discolored teeth.

50 (Previously Presented) The method of Claim 44, wherein said composition is applied to a dental material, which is fitted within the mouth.

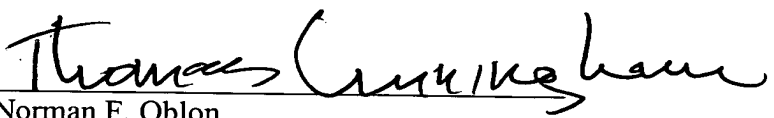
RELIEF REQUESTED

The Appellants respectfully request reversal of the grounds of rejection of Claims 25-43 under 35 U.S.C. §§102 and 103, and the subsequent allowance this application.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

Customer Number  
22850

A handwritten signature in black ink, appearing to read "Norman F. Oblon", written over a horizontal line.

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Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC) 2 USPQ2d 1051

**Verdegaal Brothers Inc. v. Union Oil Company of California**

**U.S. Court of Appeals Federal Circuit  
2 USPQ2d 1051**

**Decided March 12, 1987  
No. 86-1258**

**Headnotes**

**PATENTS**

**1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)**

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

**Particular patents -- Fertilizers**

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

## Case History and Disposition:

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Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

### Attorneys:

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

### Judge:

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

## Opinion Text

### Opinion By:

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

I

## BACKGROUND

### *The General Technology*

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

### *The Process of the '343 Patent*

The process disclosed in the '343 patent involves the chemical reaction between urea

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and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
  - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
  - b. adding water to the heat sink in an amount not greater than 15% of the end product,
  - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
  - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

### *Procedural History*

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal. Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely



filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

## II

### ISSUE PRESENTED

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

## III

### Standard of Review

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [ 224 USPQ 520 ] (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [ 225 USPQ 792 ] (1984). *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n.10, 218 USPQ 678, 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d

1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [ 224 USPQ 520 ] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

### **Anticipation**

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [ 224 USPQ 520 ] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art.

From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product. Verdegaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaal presented no evidence to the contrary.

Verdegaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no

limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function of the recycled material as a heat sink.

Verdegaaal next argues that the testimony of Union Oil's experts with respect to what

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Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law.

Verdegaaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative.

On appeal Verdegaaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief:

Verdegaaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102(e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. . . . This conclusion finds support in *In re Wertheim*, 646 F.2d 527 [ 209 USPQ 554 ] (CCPA 1981), and 1 Chisum on Patents §3.07[3].

Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point:

Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the

Verdegaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaal would attempt to raise an issue with respect to the status of the Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered prior art. See Fed. R. Civ. P. 51; *Weinar v. Rollform Inc.*, 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied*, 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied*, 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

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cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

### **Conclusion**

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

### **REVERSED**

### **Footnotes**

Footnote 1. Section 102(e) provides:

A person shall be entitled to a patent unless--

....

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

....

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Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the 343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the 343 patent.

Footnote 5. Union Oil also argues that Verdegaaal's counsel misled the jury by its closing rebuttal argument:

ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaaal patent had issued.

We disapprove of Verdegaaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 934.

**- End of Case -**